

### **AMENDMENTS TO THE DRAWINGS**

*Six replacement sheets of drawings are attached herewith, including Figures 1-6. The six replacement sheets of drawings replace all other sheets of drawings including Figures 1-6. Six annotated sheets of drawings are also attached showing changes. In Figures 1-6, the wellbore has been identified by reference numeral "10" and the reference numeral identifying the casing has been changed from "10" to --11--.*

### REMARKS

Favorable reconsideration of this application is requested in view of the amendments made herein and the following remarks.

Paragraphs [Para 17], [Para 21] and related drawings are amended to correct a minor typographical error.

Claims 17 and 21 remain canceled. Thus, Claims 1-16, 18, 19, 20 and 22-24 are pending. Claims 1, 7, 12, 13 and 14 are independent.

Figure 1 shows an embodiment according to the present application. A gas lift system is positioned in a gas well 10. The gas lift system includes an injection tool 60 that has gas lift valves 62A, 62B, 62C. The gas lift well 10 has a casing 11 running from a surface location 12 through a gas-bearing formation 14. The casing 11 has perforations 24. A dual-port packer 30 is provided to separate the well 10 into zones 10A and 10B. Zone 10A is typically a non-production zone and zone 10B is typically a producing zone. The injection tool 60 injects gas via the gas lift valves 62A, 62B, 62C into zone 10B of the well, which is at or below the level of the perforations.

Broadly encompassing that embodiment, Claim 1 recites a gas injection apparatus. A tubular member defines an axial bore therethrough and is adapted to deliver gas into a wellbore proximate a perforation interval via orifices. A plurality of gas lift valves are attached to the tubular member. The gas lift valves are adapted to regulate communication via the corresponding orifices, from the axial bore of the tubular member to the wellbore proximate the perforation interval.

The Office action rejects Claims 1-13, 15 and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 2,798,558 to McCulloch in view of U.S. Patent No. 2,725,014 to Pryor.

McCulloch discloses a completion apparatus. A conduit means 34 extends downhole through a packer 19. The conduit means 34 is provided with a two-way valve 37. Column 3, lines 31-35 in McCulloch states that pressure exerted through the passageway 61 opens the valve 55 and holds the valve 51 in closed positions while sufficient pressure exerted through the port 63 opens the valve 51 but holds the valve 55 in closed position. According to Figure 6 in McCulloch, a telescope member 70 extends

from conduit means 34 and includes a plurality of lateral ports 71 arranged intermediate the ends of the telescope member 70. McCulloch further notes that the lower end 72 of the telescope member 70 may be opened or closed as desired. See column 3, lines 40-41 in McCulloch. McCulloch does not contemplate any obstructions, e.g. a valve, being placed either in the lateral ports 71 or in an opening in the lower end 72. In fact, McCulloch seems to indicate the opposite, i.e., that the lateral ports 71 and any opening 72 should remain free of any obstruction.

The Office action acknowledges that McCulloch fails to teach or suggest gas lift valves in the lateral ports 71 and for at least that reason fails to anticipate Claim 1. To remedy that deficiency, the Office action relies upon Prior's disclosure of hydraulically actuated valves that obstruct flow between an annulus and an inside of a production tube.

More specifically, Figure 1 in Prior shows a casing 10 surrounding tubing 11. Gas is introduced into an annulus 12 between the casing 10 and the tubing 11 and the gas is forced into the tubing 11 through valves 16, 17, 18 and 19. In Column 3, lines 55-60, Prior states that the valves 16, 17, 18 and 19 are hydraulically controlled by regulating fluid pressure supplied through common control fluid supply means 22. That idea is clearly illustrated in Figure 3A in Prior, which shows that the valve is opened/closed by application of pressure in conduits 33, 34 from the fluid supply means 22.

For at least the following reasons, the rejections set forth in the Office action are deficient and should be withdrawn.

First, a skilled person would not have been motivated to add Prior's valves 16, 17, 18 and 19 to the lateral ports 71 in McCulloch. The Office action states that a skilled person would have found motivation to make the alleged modification "in order to provide actuation control to regulate the orifices". However, McCulloch discloses a two-way valve 37 that adequately controls flow through the conduit means 34. Therefore, if one were to imagine a skilled person assessing McCulloch, that skilled person logically would have understood that McCulloch addresses the issue of flow control through the conduit means 34 with the two-way valve 37 and that no additional valves are taught or

suggested by McCulloch. Thus, the skilled person would not have been directed to make the modifications/combinations suggested in the Office action, i.e., adding valves from Prior.

Second, McCulloch teaches away from adding Prior's valves to the lateral ports 71. McCulloch states that "The lower end 72 of the member 70 may be opened or closed as may be desired." In other words, the lower end can be open to provide an additional passage 72 to encourage free flow into/from the conduit means 34. Thus, if one were to imagine a skilled person being presented with McCulloch, it is clear that the skilled person would have recognized that the lateral ports 71 are meant to facilitate free passage of fluid between the conduit means 34 and the wellbore and are not intended to obstruct flow into/from the conduit means 34 through the lateral ports 71. In fact, it would have been clearly understood that obstructing flow through the lateral ports 71 would be contrary to the intended use of McCulloch's device. Thus, in the context of McCulloch, a skilled person would understand that adding valves in the lateral ports 71 would not only serve no appreciable purpose, but would also interfere with the intended operation of McCulloch, i.e., providing free flow through the lateral ports 71. Should the rejection be maintained, it is requested that the next Office action specifically explain how a skilled person, when presented with McCulloch, would have envisioned benefits from adding Prior's valves to the lateral ports 71 in McCulloch.

Third, even if one were somehow inclined to add valves in the lateral ports 71, one would not have used Prior's valves 16, 17, 18 and 19. Prior's valves are connected to the outside of the tubing 11. If one were to connect Prior's valves to the outside of the telescoping member 70 in McCulloch the overall diameter would increase thereby preventing the telescoping action required by McCulloch. Further, Prior's valves 16, 17, 18 and 19 are controlled by a pressure line 22 connected to the surface and one would have to provide that pressure line 22 from the surface to the valves 16, 17, 18 and 19. Such a modification to McCulloch would further complicate the telescoping action of the telescope member 70, would be burdensome, and would not provide any advantage in the context of McCulloch's disclosure, thereby further dissuading a skilled person from such modification. Should the rejection be maintained, Applicant request that it be

specifically explained how the valves in Prior would be integrated with McCulloch's design. For example, how would the pressure line 22 be connected while maintaining the telescoping property of the telescoping member 70? Also, what particular advantage or benefit would have been expected from such a design?

The rejection of Claim 1 based on the alleged combination of McCulloch and Prior should be withdrawn for at least the reasons stated above, i.e., that there is no motivation provided by McCulloch or Prior to make the proposed modification, and in fact, McCulloch's disclosure provides a number of reasons why a skilled person would have been taught away from making the alleged modifications.

Claims 7, 12, 13 and 14 are allowable for similar reasons as Claim 1 in connection with similar claim language.

Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McCulloch in view of Prior and further in view of U.S. Patent No. 3,192,869 to McCarvell et al. As noted above, with respect to Claim 1, there would have been no motivation to make the alleged combination of McCulloch and Prior. The additional application of McCarvell et al. in the Office action does not remedy that deficiency. For at least reasons similar to those set forth in connection with Claim 1 with regards to similar claim language, Claim 14 is allowable too.


The dependent claims are allowable at least by virtue of their dependence from allowable independent claims.

Should any questions arise in connection with this application, or should the Examiner feel that a teleconference with the undersigned would be helpful in resolving any remaining issues pertaining to the application, the undersigned requests that he be contacted at the number indicated below.

Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (SHL.0343US).

Respectfully submitted,

Date: September 27, 2007

  
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